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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/978,420 | 10/15/2001 | Kuo-Yu Chou | 67,200-409 | 5300 |

7590 05/16/2003

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EXAMINER

RICHARDS, N DREW

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 05/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/978,420

Applicant(s)

CHOU ET AL.

Examiner

N. Drew Richards

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) 7-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election of claims 1-6 in Paper No. 4 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Objections

2. Claim 1 is objected to because of the following informalities: Line 6 should read "in electrical connection" instead of "in electrically connected" as written. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Wang et al. (US 2002/0155672 A1).

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Wang et al. disclose in figures 1-4 and in paragraphs 1-23 a method for fabricating a microelectronic fabrication. Wang et al. disclose providing a substrate 100 and forming over the substrate a series of patterned conductor layers 102 separated by a series of dielectric layers in figure 1 and paragraphs 6-8 and 17. Wang et al. also disclose forming over the substrate and in electrical connection with the series of patterned conductor layers at least one fuse layer 112 as shown in figure 2 where the fuse layer is formed at a level no lower than a highest of the series of patterned conductive layers. Wang et al. disclose in paragraphs 6-8 the use of fuses to connect normal memory cell arrays and redundant memory cell arrays where the fuse is formed on the uppermost layer of the semiconductor device, the same level as the bond pad. Though the figures show a single patterned conductive layer with fuses over it, it is inherently understood that the semiconductor substrate would include many patterned conductive layers separated by a series of dielectric layers for each memory array and that the fuses would be connected to some of the patterned conductive layers to allow for the fuses to substitute defective memory cells.

With regard to claim 2, the microelectronic fabrication is an integrated circuit microelectronic fabrication.

With regard to claim 3, the fuse layer is formed simultaneously with a bond pad layer as the same layer 12 is etched to form both the fuse and the bond pad.

With regard to claim 4, the fuse layer is formed simultaneously with an alignment mark. The bond pad 112b or Wang et al. is considered to be an alignment mark as the

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passivation layer is etched aligned with the bond pad to expose the bond pad, thus the bond pad is considered an alignment mark.

With regard to claims 5 and 6, the fuse layer and highest of the series of patterned conductive layers are formed of different conductive materials where the fuse is disclosed as being formed of aluminum and the highest of the series of patterned conductive layers are formed of copper.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Barth et al. (U.S. Patent No. 6559042 B1), Tottori (U.S. 2002/0014680), Ema (U.S. Patent No. 5297541 B1), Tzeng et al. (U.S. Patent No. 6180503 B1).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to N. Drew Richards whose telephone number is (703) 306-5946. The examiner can normally be reached on M-F 8:00-5:30; Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



NDR

May 14, 2003



ALLAN R. WILSON
PRIMARY EXAMINER